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Guarantee building re-energized using trendsetting technology

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The big "G" in downtown Fresno is coming back to life, and through a novel source of power: the largest commercial installation of fuel cells in California.

Three fuel cells, each providing 200

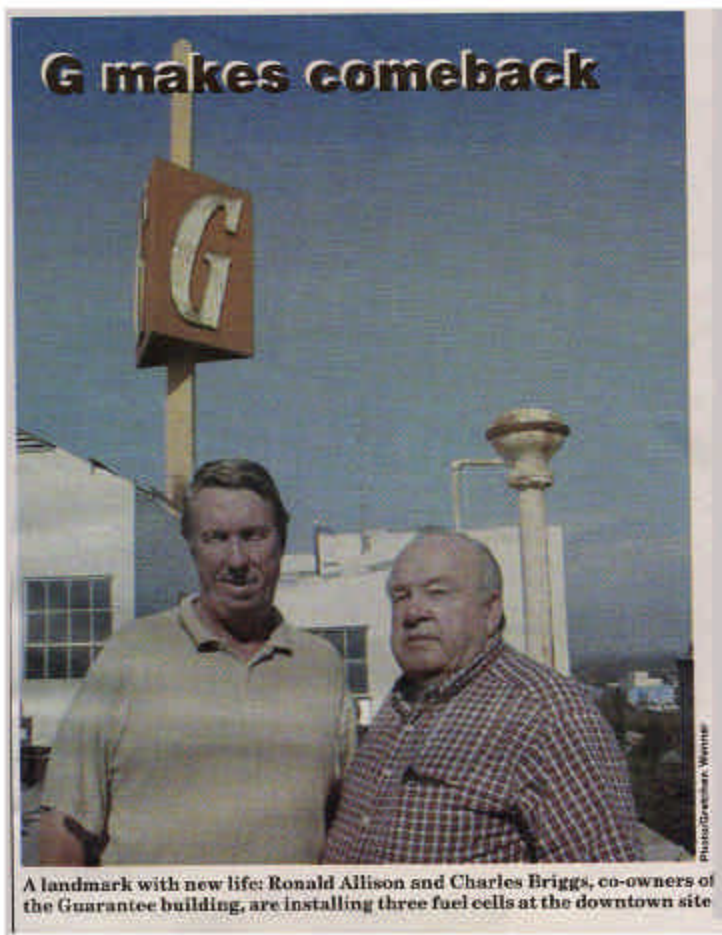
kilowatts of electricity, will be firing up the Guarantee Savings and Loan building by mid-December. They are among the first being sold to private-sector customers in the state.

The Fulton Mall building, which has been sitting empty for years, is going through major remodeling in preparation for new tenants. Both

the Internal Revenue Service and the Immigration and Naturalization Services have signed leases, said Charles Briggs, co-owner of the building.

Part of the renovations include energy-efficient systems that will reduce power consumption in the building by somewhere between 55 to 70 percent, said Ronald Allison, co-owner.

See Guarantee, page 24



Guarantee

Continued from page 1

The new gear includes efficient fluorescent lighting, rebuilt elevator motors that run only when needed and a computerized heating and air conditioning system that divides the 12-story structure into 70 controllable zones.

It also includes new energy-saving lights for the time-and-temperature display that borders the G atop the building.

Many Fresnoans remember the G as a functional part of the landscape. The giant letter once changed colors to indicate approaching weather systems. The sign will make a comeback during the refurbishing.

Fuel cells, while not widely used commercially, have been used on space missions and at military bases for years. They are prized as a source of power because they are efficient, reliable, clean and quiet. So far, though, they have remained expensive.

California's energy crisis, which brought higher prices and the threat of unreliable power, has piqued interest in alternate energy sources. Allison said fuel cells were chosen for the Guarantee building because finances for the project now pencil out.

The cells have been exempted from permitting requirements by the San Joaquin Valley Air Pollution Control District, Allison said, because they put out so few emissions.

Each unit is 10 feet tall, 10 feet wide and 18 feet long — very roughly, the size of a motor home.

The building will remain hooked up to power lines for back-up and

supplemental power, Allison said. Excess energy produced by the fuel cells will be sold back to Pacific Gas and Electric Co.

The cost for the installed system, before rebates, topped \$4 million. Federal and state rebates for the project will lop off more than half that cost. Payment will be amortized over the term of the lease, Allison said.

Franklin H. Holcomb, an electrical engineer with the Department of Defense's Construction Engineering Research Laboratory in Illinois, is familiar with the upcoming Fresno installation. He said there are only a handful of other commercial projects nationwide involving multiple units.

Holcomb's fuel cell group helped fund and develop a system that links multiple fuel cells together, allowing them to be hooked up to larger loads. That system will be used for the Fresno installation, he said.

The power plants, made by International Fuel Cells, are a type known as phosphoric acid fuel cells. The Fresno plants will use natural gas as fuel.

All fuel cells make electricity without combustion through an electrochemical process similar to a battery's, said Holcomb.

One of the byproducts, hot water, will be used to run the building's heating and air conditioning systems. That will make the system more than twice as efficient as power coming from the electric grid, Holcomb said.

The cells will be installed and maintained with support from Logan Energy, an Atlanta-based firm that is an authorized representative of International Fuel Cells. ■